MODULE 10A
APPARATUS
Student Guide

Introduction

Welcome and Course Introduction. Welcome to Module 10A, Apparatus. During previous periods of instruction, we have given you an orientation of the fire service; we have discussed personal safety, self-contained breathing apparatus, search and rescue, hose loads, fire streams, ladders, forcible entry, and ventilation. Today, we'll be looking at the apparatus used to put out the fires, and save the people. During this module, you will become more familiar with some of the equipment you will use at the fire scene. During Module 10B, you will learn some of the laws regarding the driving of emergency vehicles.

Purpose of this module. The purpose of this module is to provide you, the recruit firefighter, a basic understanding of various types of apparatus and equipment you will use on the scene, as well as some positions to use when riding the apparatus. You also need to know some additional things about safety and laws regarding the driving of the trucks and engines associated with firefighting. It will keep you safe and out of trouble with the law. This training is mandated by state regulation for all entry level firefighters.

Scope of this module. For the next four hours, we will demonstrate, discuss, and conduct practical exercises on various types of apparatus and equipment used in the fire service. We will be conducting practical exercises on portions of the material taught.

Objectives. By the end of this module, you will:

1. Identify apparatus commonly used in the fire service.
2. Describe procedure to safely approach and mount each piece of apparatus while wearing PPE.
3. Describe how to safely ride in each piece of apparatus while wearing PPE.

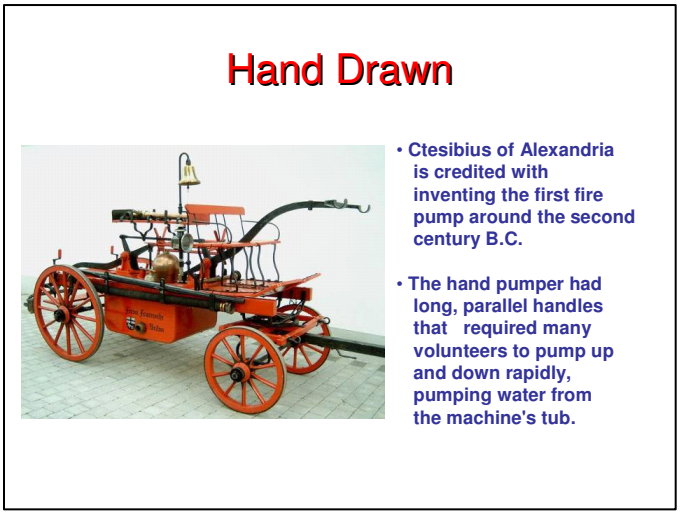
Conditions. The instruction you receive in this module is intended for firefighter recruits, meaning, it is our assumption that you know little or nothing about firefighting. Instruction will take place here in a classroom environment. We will use lecture, conference, demonstration, and practical exercise methods to deliver your instruction.

Your fire department has a variety of vehicles that are large, complicated, and potentially dangerous. Before we look at the vehicles themselves, let's talk about how they should be operated on public streets and highways.

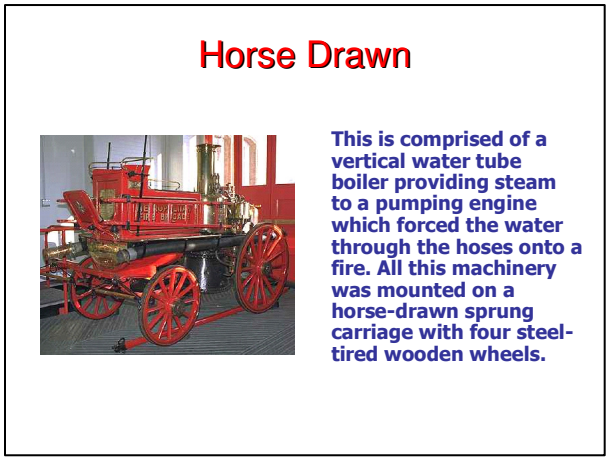
Apparatus-Old and New

Old.

Hand Drawn. Ctesibius of Alexandria is credited with inventing the first fire pump around the second century B.C. The hand pumper had long, parallel handles that required many volunteers to pump up and down rapidly, pumping water from the machines tub.

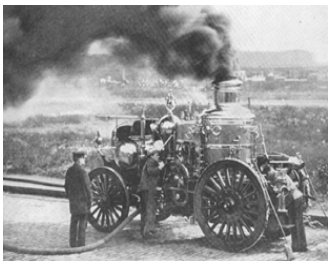


Horse Drawn. This is comprised of a vertical water tube boiler providing steam to a pumping engine, which forced the water through the hoses onto a fire. All of this machinery was mounted on a horse-drawn sprung carriage with four steel-tired wooden wheels.



Steam-Powered Fire Engine.

Steam-Powered Fire Engine



Early Motorized Apparatus.

Early Motorized Apparatus

Modern Fire Apparatus.

Modern Fire Apparatus

Engine Companies

- Deliver water at fire scene.
- Stretch hose lines.
- Attack and extinguish fires.
- (4) Carries pump, hose, water, tools, and appliances.
- Carries 2-6 personnel seated and belted.
- Self-Contained Breathing Apparatus.
- Special Extinguishing Agents.
- Lighting Equipment.
- Extension Ladder.

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Truck Companies

- Forcible entry.
- Search and rescue.
- Ventilation.
- Ladders.
- Securing utilities.
- Overhaul.
- Carries ladders, aerial device and tools.

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Aerial Ladder.

- Apparatus-mounted ladder reaching 75'-110'.
- Ladder designed so various sections slide out from one another.
- Ladder bed is attached to a turntable that allows for 360-degree rotation.

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Mobile Water Supply Apparatus "Tankers or Water Tenders"

- Most engines today have at least a 500 gallons water tank.
- Tenders have tanks from 1,000 to 8,000 gallons.
- Some tenders may have a pump. (According to NIMS this apparatus is designated as a water tender.)

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Heavy Rescues.

- Forcible Entry.
- Search and rescue.
- Scene Lighting.
- Specialized rescue.
- Vehicle extrication.
- Confined space.
- Rope rescue.

Heavy Rescues

- Forcible entry.
- Search and rescue.
- Light tower.
- Specialized rescue:
  - Vehicle extrication.
  - Confined space.
  - Rope rescue.

Special Rescue.

- Hazardous Materials.
- Dive Rescue.
- Rope Rescue.
- Confined Space.
- Trench/Collapse.

Special Rescue

- Hazardous Materials
- Dive Rescue
- Rope Rescue
- Confined Space
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Brush Rig.

- Used to extinguish fires in hard to access areas.
- Usually 4X4.
- Carries shovels, axes, and Rakes.
- Have smaller diameter hose
- Some are equipped with a foam system.

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EMS/Squads.

- Basic life support.
- Carries patient care equipment including.
- Oxygen, AED, Suction, Bag Valve Mask.
- Splints and Bandaging Equipment.
- Advanced life support.
- Carries all basic life support equipment plus medical drugs.

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Incident Command Vehicles.

Mobile Communication & Command Post.

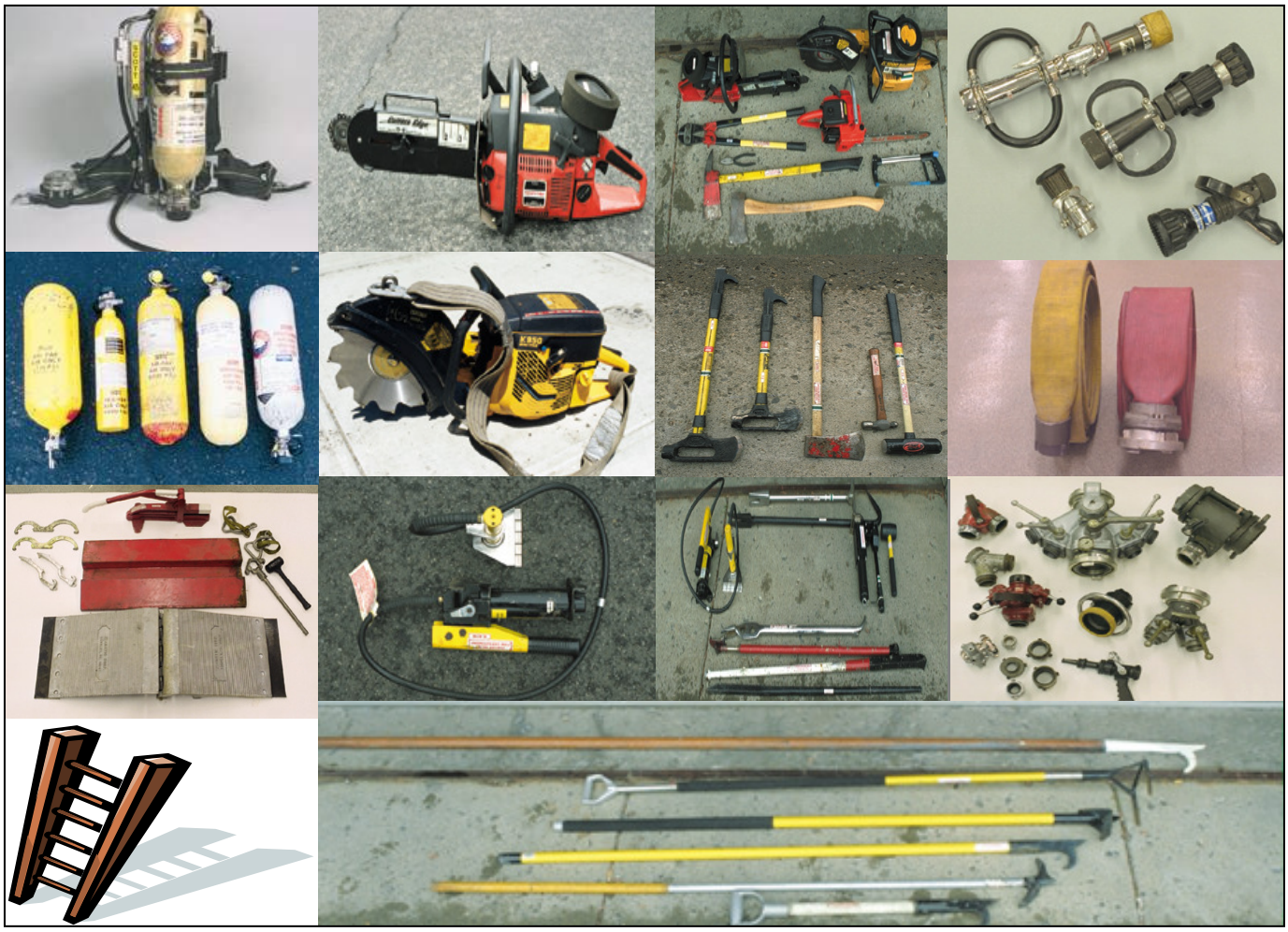
- Used for long term incidents.
- Large fires.
- Mass casualty incidents.
- Special rescues.

Airport Crash Truck.

- Carries foam, dry chemical, and water.
- Able to traverse all terrain.
- Some have special nozzles to penetrate aircraft skin.

Hazardous Materials Companies. Responds to and mitigates hazardous materials incidents.

Equipment carried on Fire Apparatus



Review and Closing

Review. During this module, you have been introduced to and should be able to:

1. Identify apparatus commonly used in the fire service.
2. Describe procedure to safely approach and mount each piece of apparatus while wearing PPE.
3. Describe how to safely ride in each piece of apparatus while wearing PPE.

Closing. As a firefighter you must know the apparatus and equipment used at the scene. As your training progresses we will teach you how to properly use each piece of equipment to most effectively battle fire and save lives.

SAMPLE VEHICLE INSPECTION - MAINTENANCE REPORTS

VFIS

Vehicle Accident/Loss Investigation Report

(This is not a claim form)

Fire Department _____ Date _____

Address _____

Name of Driver _____ Vehicle ID/Unit Number _____

Type of Vehicle _____

Date Driver Last Certified On Above Vehicle _____

Date of Accident _____ Time _____ Date Reported _____

Location of Accident _____

Roadway

- ☐ Straight _____
- ☐ Curve _____
- ☐ On Grade _____
- ☐ Level _____
- ☐ Hillcrest _____
- ☐ Dry _____
- ☐ Wet
- ☐ Muddy _____
- ☐ Snowy _____
- ☐ Icy _____
- ☐ Oily _____

- ☐ 2-lane
- ☐ 3-lane
- ☐ 4-lane
- ☐ Divided
- ☐ Rural
- ☐ Other _____
- ☐ Lanes marked
- ☐ Lanes unmarked
- ☐ No road defects
- ☐ Holes, ruts, etc.
- ☐ Loose material
- ☐ Other

Accident Occurred:

- ☐ At station
- ☐ Responding to emergency
- ☐ At emergency scene
- ☐ Returning from emergency
- ☐ Training
- ☐ Convention or parade
- ☐ Other _____
- ☐ Sleet

Type of Loss

- ☐ Personal injury
- ☐ Property damage
- ☐ Vehicle damage

Weather

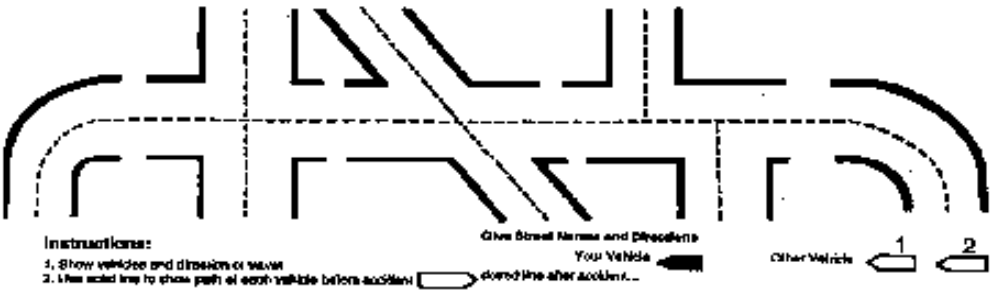
- ☐ Clear
- ☐ Rain
- ☐ Snow
- ☐ Fog
- ☐ Other _____

Description Of Accident _____

Motor Vehicle Diagram

Complete the following diagram showing direction and positions of automobiles involved, designating clearly point of contact.

Indicate North ↑



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VFIS.

Weekly Emergency Vehicle Report

Page No. _____

Name of Company: _____

Address: _____

Vehicle Mfg.:_____ Vehicle Unit/ID Number: _____

Year: _____ Serial No.:_____ Type: _____

Required Tire Pressure: _____

DATE INSPECTION COMPLETED	INSPECTOR	BATTERY CHECK	BRAKING SYSTEM	ELECTRICAL SYSTEM LIGHTS & SIRENS	TIRES & WHEEL LUGS	FUEL LEVEL	OIL LEVEL ENGINE & HYDRAULIC	HYDRAULIC SYSTEM	PUMP CHECK	COOLING SYSTEM	LUBRICATION PUMP & LADDER	ENGINE CHECK	BOOSTER TANK LEVEL	DOORS-COMPARTMENT & CAB	PORTABLE EQUIPMENT	SPECIAL REMARKS ON ROAD TEST INSPECTION USE OTHER SIDE

Emergency Vehicle Maintenance Record

Vehicle Description _____ Manufacturer's Serial Number _____

Model Year _____ Plate No. _____

Time Record

Make	Warranty (Life)	Date Installed	Odometer

Battery Record

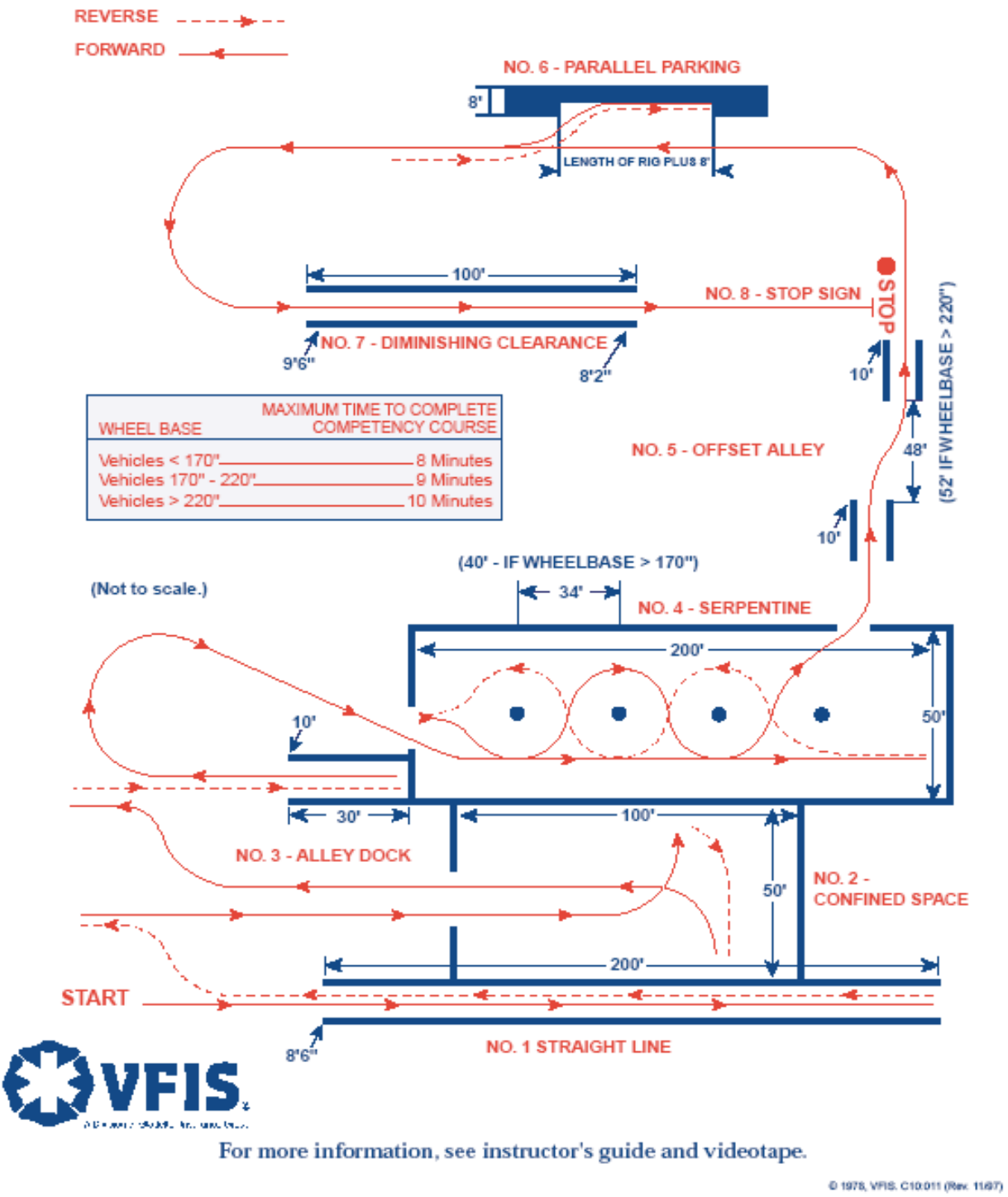
Motor Oil & Oil Filter Record

Date	Months or Miles	Quarts of Oil	Filter	Remarks

Lubrication Record

Date	Remarks	Date	Remarks

COMPETENCY COURSE



For more information, see instructor's guide and videotape.

Vehicle Driver's Safety Check

Date Odometer Reading Unit No.

☐ Pre-Trip Inspection ☐ Post-Trip Inspection

Only Items Checked Require Attention

- ☐ Gauges - Ammeter, Oil Pressure, Fuel, Water Temperatures, Air Pressure or Vacuum
- ☐ Windshield Wipers
- ☐ Windshield & Windows
- ☐ Heater & Defroster
- ☐ Mirrors
- ☐ Brakes (Foot & Parking)
- ☐ Engine Noises
- ☐ Horn & Sirens
- ☐ Steering
- ☐ Vehicle Body
- ☐ Wheels, Tires, Lugs
- ☐ Fuel Tank and Cap
- ☐ Leaks — Water, Fuel, Oil
- ☐ Head Lights
- ☐ Tail Lights
- ☐ Stop Lights
- ☐ Turn Signals and 4-Way Flasher
- ☐ Reflectors
- ☐ Emergency Equipment
  Other - If Applicable
- ☐ Clearance Lights
- ☐ Emergency Warning Lights
- ☐ Side Marker Lights
- ☐ Brake Hoses
- ☐ Compartment Door Locks
- ☐ Drain Air Tanks of Moisture
- ☐ Air Systems
- ☐ Mounted Equipment

Remarks (explain unsatisfactory items noted above)

Signature of Driver _____

To be Completed by Repair Shop

Mechanic's Report (if defects are noted)

Signature of Repair Shop
Foreman or Mechanic _____ Date _____

(Use back of form for additional remarks.)

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